

Featured Participants

CellAct Pharma
www.cellact.eu

Cerulean Pharma
ceruleanrx.com

City of Hope
www.cityofhope.org

Cleveland State University
www.csuohio.edu

David Geffen School of Medicine at UCLA
healthsciences.ucla.edu/dgsom

G1 Therapeutics
www.g1therapeutics.com/home.html

Genomic Health
www.genomichealth.com

Johns Hopkins University (JHU) School of Medicine
www.hopkinsmedicine.org/som

John Theurer Cancer Center at Hackensack UMC
www.jtcancercenter.org

The University of Texas MD Anderson Cancer Center
www.mdanderson.org

WellPoint
www.wellpoint.com



“Researchers in any environment will have to become more outcome based.”

—Andre Goy

questions about the role of genomics in patient care,” he explains. “We are definitely seeing a broad need in medicine to find ways of using genomic techniques to make a clinical difference.”

Andre Goy, chief of the Lymphoma Division and director of the Tissue and Tumor Bank at the John Theurer Cancer Center at Hackensack University Medical Center (UMC), notes that in both academic and industrial labs there is more of a spotlight on understanding cancer cell biology using novel therapies, or “precision medicine” utilizing biomarkers identified through genomics. “The next generation of physicians and scientists will be exposed early on to this progress as we evolve towards a redefinition of the classification of cancers—not only based on the organ of origin but on shared molecular characteristics, hopefully providing a rationale for treatment decisions in a growing number of cancer patients,” he suggests. Furthermore, with an expanding number of

scientists working on both sides of the fence, Goy is seeing a heightened interest in the business of medicine, with an increased number of scientists and physicians pursuing MBAs. “Many factors are reshaping the field of cancer care,” he clarifies. The research techniques, technology, economics, and molecular diagnostics are just some of those moving pieces. Generally “researchers in any environment will have to become more outcome based,” says Goy.

Advice for Scientists in the Changing Landscape

One piece of advice that these experts keep emphasizing is that there is no set course for a career in cancer research. Scientists can now choose industry, academia, a hybrid, or a combination of any of these. Just as the field of cancer research is becoming more diverse and interdisciplinary, so is the profession.

“It’s not like once you make a choice, you’re stuck with that choice forever,” says Eliasof. “You can move from academia to industry and vice versa,” although he admits it can be harder to move from a company back to a university because of the lack of demonstrable publications. But there is a way to make a company-to-university transition easier and more efficient: “Keep interacting with your colleagues in academia so they know about you,” advises **Nalán Utku**, the managing director and co-founder of CellAct, a small German cancer research company who has also spent considerable time in academia.

But the academic setting is experiencing a metamorphosis in more ways than one. For instance, “academia is starting to recruit from industry more,” says Eliasof. And “the choices of direction of cancer research in academia are not as broad as they used to be,” notes Clark. “Academic research is being driven more and more by where the money comes from.”

As more researchers realize that cross-disciplinary and cross-sector investigations are good for science and medicine, leaders predict there will be more collaboration between industry and academia. “We’re discovering that we need each other,” says Malkas. “Young people today...need to learn that the old cowboy way of doing science where you work by yourself is gone.” Indeed, the majority of the time “it’s about ‘group science’ for groundbreaking research,” echoes Clark.

To prepare for a career in cancer research, scientists need a multidimensional skill set to tackle questions from different fronts. “Think big and bold, but focus,” advises Goy. “The old rules of research still apply, but the way we are going to do things will with no doubt change dramatically in the coming years.” Academic scientists should get to know clinicians and their work with patients, and learn business skills. To further enhance one’s marketability, develop a good understanding of data analysis and computational biology—skills which are becoming more and more coveted as technology improves and the amount of data being analyzed increases exponentially, notes **Giulio Draetta**, director of the Institute for Applied Cancer Sciences (IACS) and professor in the Department of Genomic Medicine at the University of Texas MD Anderson Cancer Center.

Above all, attitude is key. “Whether you are in industry or academia, research is a discipline that’s bound to give you 99% failure,” says Draetta. “You have to believe in yourself.”

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